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Current Support Brief

BIG BOOST IN SOVIET MILITARY ELECTRONICS BY 1965

CIA/RR CB 63-34

9 April 1963

CENTRAL INTELLIGENCE AGENCY

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BIG BOOST IN SOVIET MILITARY ELECTRONICS BY 1965

Summary

A major upward revision has been made in plans for the expansion of the Soviet electronics industry, which, if achieved, will result in an approximate doubling of output for this industry during 1963-65. The major increase will take place in 1965, when total output is estimated to exceed 10 billion rubles (about US $15 billion*), approximately 3 billion rubles more than estimated as the original goal of the Seven Year Plan (1959-65) for that year. The key factor in attaining the revised goal will be the ability of the USSR to provide planned increases in capital investment for the industry. (See Figure 1.)

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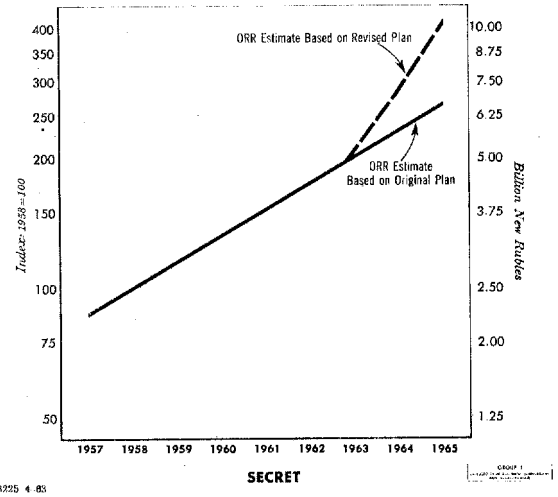
Figure 1

USSR: Estimated Output of the Electronics Industry 1957-65



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By 1965, Soviet military/space programs could represent expenditures for electronics about as large as or larger than those currently forecast for US military/space programs in 1965. The estimated magnitude of the increase in Soviet expenditures for military/space electronics in 1965 is such that it cannot be accounted for entirely by present forecasts of future Soviet military and space programs. On the basis of present evidence, however, it is impossible to judge how much of the increment in output will go to meeting accumulating demands such as replacement and modernization of existing systems

* Ruble values throughout this publication are in prices of 1 July 1955 adjusted to the new 1961 rate of exchange. Conversion to US dollars was made on the basis of rates of exchange applicable to various components of the electronics industry.

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and burgeoning maintenance requirements and how much may become available for new or expanded programs for weapons and support systems. On balance, the magnitude of the planned increase appears to be sufficient to satisfy in part both kinds of demand.

1. Electronics Production

The decision to expand drastically Soviet electronics production evidently was reached at the November 1962 meeting of the Central Committee of the Communist Party of the USSR. The first reference to a revision of the Seven Year Plan for the electronics industry was in a December 1962 article which indicated that capital investment was to be increased in several sectors of this industry. 1/ A subsequent article in the January 1963 issue of Kommunist reported that the volume of output of the electronics and radioelectronics branches of Soviet industry would more than quadruple during 1959-65 and that by 1965 these branches would become "most substantial branches" (naibolee moshchnymi otraslyami) in the national economy.* 2/ These statements were made by senior officials of the Soviet electronics industry and planning authorities and apparently reflected decisions of the November 1962 meeting of the Central Committee.

It is estimated that the increase in production relative to 1958 would result in a total output valued at about 10 billion rubles in 1965. Although the USSR has never released information as to the value of output of the electronics industry, the new estimate for 1965 has been obtained by applying rates of change to a base-year (1957) estimate, which is believed to be accurate within relatively narrow limits. 3/ The original goals of the Seven Year Plan, drawn up in 1958, called for an approximate tripling in electronics production by 1965. 4/ The apparent revision of the 1965 goal means that an average annual rate of growth of between 35 and 40 percent for the years 1964 and 1965 will be required, which will yield an average rate of about

* By implication, "branch" as used above refers to a subdivision of industry such as machine tools rather than to a major economic sector such as light or heavy industry.

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21 percent for the full 7-year plan period (compared with about 15 percent under the original plan). An annual rate of increase of 21 percent is slightly less than the average rate of growth for these industries during the 1950-58 period.

The doubling of output by the electronics industry in 1965 over 1963 (which will be necessary if the revised plan goal is to be met) appears to be a difficult, but attainable, objective. Electronics output is susceptible to rapid expansion through the introduction of modern production machinery, and there have been instances in the US, France, and Japan where comparable rates of increase in output have occurred. The initial base-year outputs of the Western countries were, however, at a much lower level than those now planned for the Soviet electronics industry in 1963 and, except for the US, primarily involved increases in consumer electronics. 5/

In spite of the fact that electronics output is susceptible to rapid expansion, a very closely administered program will be required for the acquisition of new capital machinery, the construction of manufacturing plants, and the training of new production workers. Serious slippage of any one of these factors could cause underfulfillment of the revised plan. The additional investment required to meet the incremental part of the new plan could approach 1 billion rubles. The amount originally planned for investment in the Soviet electronics industry during the Seven Year Plan period was 1.1 billion rubles, of which more than half should have been made by the end of 1962. 6/ The remaining investment from the original plan, when combined with that needed for the revised goals, will result in extremely large investment during the next 3 years. In spite of this magnitude, the USSR probably is capable of supplying the required production machinery, although serious attempts probably will be made to augment domestic production by imports from non-Bloc countries, particularly Japan, France, and England.

The increased quantities of raw materials needed probably also will be forthcoming. The Soviet chemical industry is currently undergoing an expansion, and increased quantities of ceramics, synthetic films, germanium, and silicon as well as other specialized electronics

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materials are becoming available. As many of these items are not covered by Western embargo, non-Bloc sources also can be utilized to supplement domestic production.

2. Military Consumption

The consumption of electronic equipment by Soviet military and space programs is estimated to have averaged about 70 percent of total output of electronics for the past decade. In value terms the electronics share of military machinery is estimated to have increased from about 20 to 25 percent in 1958 to about 30 percent in 1962. With new military systems coming in that are even more electronics-intensive, these proportions will increase still further. By 1965, military and space programs could be absorbing about three-fourths of the output of the electronics industry. That a large portion of the output of the electronics industry in 1965 will be available for military/space purposes is supported by the absence in the above sources of any reference to planned increases in the rate of production of consumer goods under the revised plan. Continued increases are expected, however, in industrial consumption of electronics.

The military share of the revised plan for 1965 is now estimated to amount to about 7.5 billion rubles* -- about as large as or larger than the presently anticipated total US military/space procurement of electronic equipment of $10.6 billion in 1965.** In 1962 Soviet outlays for military/space electronics were roughly two-thirds as large as those of the US. It is to be noted, however, that such comparisons can be no more than gross approximations, owing to the nature of international comparisons -- particularly with respect to military hardware. (See Figure 2.)

Although the full implications for the Soviet military/space programs of a total electronics output on the order of 10 billion rubles in 1965 are as yet unclear, it seems virtually certain that there will be

* Estimated from ORR ruble/dollar ratios to range from $10 billion to $13 billion.

** As estimated by the US Electronics Industry Association.

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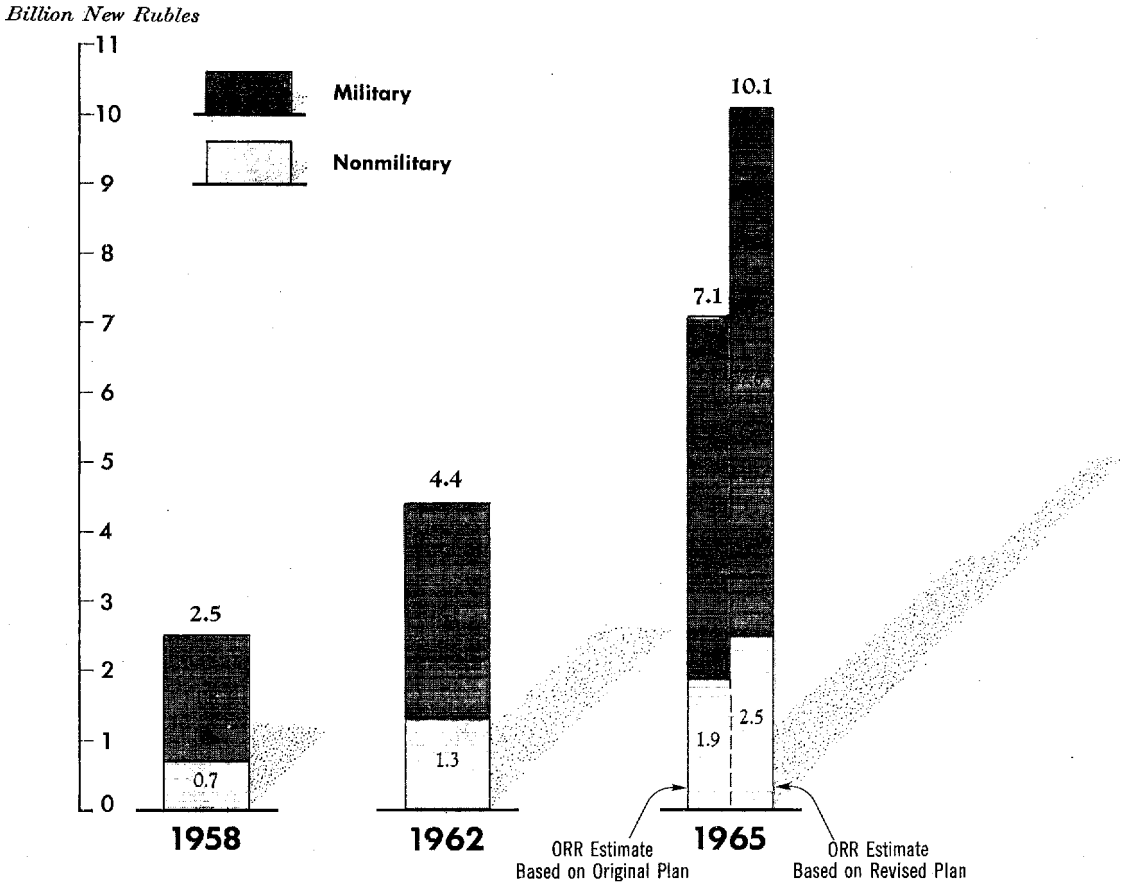
Figure 2

USSR: Estimated Allocation of Output of Soviet Electronics, 1958, 1962, and 1965



real and substantial increases of a magnitude that cannot be accounted for entirely by present estimates of future Soviet military and space programs. It is clear that there will be many claimants for the increased electronics output -- including new or expanded programs for weapons and support systems, replacement and modernization of

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existing systems, and burgeoning maintenance requirements. It is difficult, however, to judge whether the revised plan reflects Soviet underestimation in 1958 of the over-all demands for electronics required by 1965 or whether the new plan indicates that there have been recent decisions to increase one or several programs that have large electronics requirements. On balance, it seems likely that the planned increases stem from both causes.

Numerous references to existing needs for more modern and varied electronic equipment in all branches of the armed forces are contained in Soviet military literature published in the 1960-1961 period. These needs are grouped generally into three categories: integrated communications equipment (including electronic computers, video-communications equipment, recording devices, electronic switchboards, duplicators, and photo-telegraphic equipment); reconnaissance equipment (including optical, infrared, sound-ranging, and seismo-intelligence equipment); and a wide range of electronic equipment to improve the operational efficiency of guided-missile units. Continued references to the scarcity of electronics equipment in this literature is indicative of the limited output of the industry in the past relative to the over-all demand. Moreover, the literature indicates mounting pressure to take corrective steps.

Although a sizable part of the increased output of electronics could go to meeting these unfulfilled demands, the proposed increment seems large enough to accommodate increased emphasis on one or more of the important programs that will require substantial inputs of electronic equipment in 1965 and later years. These programs could include the deployment of an operational antiballistic missile system on a broader scale than heretofore planned; the acquisition of more sophisticated, faster-reacting strategic weapon systems (including the reequipping of presently deployed systems); or the acceleration of space programs. Although a significant part of this increment almost certainly will be devoted to Soviet military or space programs, it is impossible on the basis of present evidence to specify with confidence how this increment is likely to be apportioned among individual programs.

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Sources:

1. Planovoye khozyaystvo, Dec 62. U.
2. Kommunist, no 1, 1963, p. 67. U.
3. CIA. CIA/RR 59-10, The Electronics Industry in the USSR, 1950-60, Apr 59. S.
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